

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: fred@ott.net (Fred Ringwald)  
Subject: [4602] 40-9er off board parts?  
Message-ID: <199602231445.IAA11712@is.ott.net>

Would someone please let us know what off-board (i.e. chassis mounted) parts are needed to build the 40-9er.

I really appreciate the posts of the parts lists, technical discussions, and building experiences. In order to be ready to build when the board arrives, I would appreciate a list of the additional parts, like switches, a 9v battery connector, antenna connector, etc!

Thanks es 73s,

Fred Ringwald 913-242-4829  
2228 Labette Road fred@ott.net  
Ottawa, KS 66067-8977 AB0AE

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: Alan Kaul <kaul@netcom.com>  
Subject: [4618] 49er Parts Info (2N5484-substitute)  
Message-ID: <Pine.3.89.9602231230.A25016-01000000@netcom19>

I just ordered parts today from Mouser (via telephone at 800-346-6873) and was pleasantly surprised to learn that even though they don't stock the J309, J310 or 2N5484, they do sell what they claim is a 'direct NTE replacement part for the 2N5484.' Their substitute part is numbered:

526-NTE-312 and lists for \$1.34

Mouser also shows an NTE substitute for the LM-380-A, but the price is a little stiff: number 526-NTE-740A, listing for \$6.23. I'm still looking for the LM-380!

No minimum order!

Thanks N6KR -- looks like you have another winner! BTW - I ordered 2-boards, one for 40 and am hoping to put the other on 17, so if anyone has some thoughts on the RF component values and a frequency for the xtal -- please advise.

73/72 de alan

[<Alan Kaul, W6RCL>] kaul@netcom.com

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: KFGlynn@aol.com  
Subject: [4597] Audio Filter  
Message-ID: <960222234339\_229152459@emout07.mail.aol.com>

Hello Gang,

I'd like to get a CW filter for my Icom IC-728 but the Icom filter runs for \$99 from most vendors I saw two circuits in the ARRL 95 Handbook. The active filter is kitted by OHR.

Does anyone have anything they can suggest. Has anyone seen the filters described in the Handbook? I need something for that rig but don't want to spend that much if I can avoid it now.

Tnx es 73 de Kevin KB2TE0

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: "Jim Kortge, NU8N" <jokortge@tir.com>  
Subject: [4633] Cascade DX Revisited  
Message-ID: <9602240201.AA00234@lisp.com>

The last details Gang. The antenna I used for the VK contact on 40 was a 130 foot doublet, fed with 450 ohm open wire feeders via the balanced output on my tuner. The apex is up at 50 feet, and the ends are about 15 feet off the ground. It runs north-south, and occasionally works rather well! :-)

72...Jim

Jim Kortge, NU8N		BMHA, NorCal, QRP-L
jokortge@tir.com	__o	Cascade 17/40 SSB
Fenton, MI	_`\<,	Mizuho 17/40 SSB
.. .. .	(*)/(*)	. . . . .

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: David Johnson <djohnson@acpub.duke.edu>  
Subject: [4608] Catch that FOX! Feb 28 (Feb 29 UTC)  
Message-ID: <Pine.SOL.3.91.960223110624.20119C-100000@bio7.acpub.duke.edu>

Gang:

Tag - I'm it! The FOX, that is! Here is my schedule for my  
upcoming FOX session, as usual on 40m.

Feb 28 9-11pm EDT (Feb 29, 0200-0400 UTC)

0200 to 0215+ UTC, 7110 +-, 5-10 words per minute  
about 0215 to 0400 UTC, 7040+-, a bit faster cw (not as  
fast as Chuck ;-)

Catch me! Catch me!

I'll be calling, and listening for the weak ones as well  
as the strong ones!

Hope to hear you!

72,

Dave

David W. Johnson	QRP ARCI 6546
Amateur Extra WA4NID. Low power enthusiast!	G-QRP 4864
email: djohnson@acpub.duke.edu	NorCal 355
packet: WA4NID@KB4WGA.#DUR.NC.USA.NOAM	TSRAC 3482

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: ar722@cleveland.Freenet.Edu (Donald K.Philbin)  
Subject: [4617] CMOS 74HC240 & FET 15 Watt amp Help!!  
Message-ID: <199602232018.PAA08965@kanga.INS.CWRU.Edu>

Help!

I am looking for an article by Lou Smith, N7KSB, which I think is titled "An easy to build 15 watt transmitter" which uses a 74HC240 buffer which drives a MOSFET amplifier.

A fellow ham who has me hooked into foxhunting wants to build it as a transmitter for 160 meters. The 1996 ARRL handbook cites this transmitter in a reference which was published in "Hambrew mag.", which I have not been able to locate here in Denmark.

Does anyone know anything about this transmitter? Any way I may obtain a circuit diagram? Is N7KSB on e-mail???

We have several inches of snow on the ground and it's hovering around zero Celsius at noon.... fox hunt on Sunday...should be fun!

D.K. Philbin  
OZ2DKP & KD6TK

--

D.K. Philbin, Fulbright Instructor  
Home: Hestkobjev 10  
3460 Birkerod, Denmark  
Tel: (45) 42-81-13-52

Birkerod Gymnasium og HF  
Sondervangen 56, Postboks 220  
3460 Birkerod, Denmark  
Fax: (45) 45-82-02-57

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: Marshall Emm <75230.1405@compuserve.com>  
Subject: [4610] CQC Winter QSO Party  
Message-ID: <960223170743\_75230.1405\_HHB58-1@CompuServe.COM>

There is still JUST BARELY time to join CQC and get a number if you want to use it in the CQC Winter QSO Party on Sunday (the 25th). I'm re-posting the rules, followed by an e-mail application form.

To get your number before Sunday, you must mail your check to the PO Box shown, AND send an email copy of your completed application form to CQC@aol.com, with a statement that your check is in the mail. A number will be issued by return e-mail.

Remember, QSOs with CQC members are worth extra points!

The times are listed in UTC, so for those of you who want to know where

local Mickey's hands are going to be, it starts at 3pm and ends at 9pm Mountain Standard Time. That's 5-11pm EST, 3-10pm CST, and 2-8pmPST.

The times were deliberately chosen to allow for variable propagation-- everybody in the US should get the grey-line window, and the opportunity to use different bands. Hope to see all of you on air Sunday.

73/72  
Marshall  
AA0XI/VK5FN

Colo. QRP Club Winter QSO Party 1996

EMail rules

Date/Time: 2200 UTC February 25 to 0359 UTC February 26, 1996  
Sunday evening local time (United States)

Exchange: RS(T), State/Province/Country, First Name, and Member # if CQC member, power output if not, ie: 579 CO Jim NR 04

Suggested frequencies (No WARC bands)  
CW 1825, 3560, 3710, 7040, 7110, 14060, 21060,  
21110, 28060, 28110  
SSB 1910, 3985, 7285, 14285, 21385, 28385

Classes: Single Band, Multi-band, Novice/Tech

QSO Points:  
CW- CQC member 6 pts, non-member 4 pts  
SSB- CQC member 3 pts, non-member 2 pts

Multiplier: States/Provinces/Countries worked.  
The same station may be worked on different bands for additional QSO points and multipliers. Contacts on the same band using a different mode counts for QSO points, but not as an additional multiplier. U.S. and Canada do not count as seperate countries.

Names: Total of first names from Name sheet. One first name per letter of the alphabet. Name must be same as Callbook or QSL card.

Score: Total Score = QSO Points x Multipliers x Names  
Submit logs within 30 days of contest

Power: Stations must use 5 watts or less output, CW or SSB. There are no power multipliers.

Awards: To Be Determined, Highest Score in each class

For sample Log, and Name sheets, send SASE one unit postage to:  
Jim-KG0PP-CQC Contest; P.O.Box 31575; Aurora,CO 80041-0575

### Colorado QRP Club

Our dues are \$10.00 per year. Additional family members at the same QTH are \$2.00 each. If you are using the Email membership application, send with check to Colorado QRP Club, Box 460101, Aurora, CO 80046-0101. EMAIL a copy of the application, with statement that check is in the mail, to cqc@aol.com for immediate issue of membership number.

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Call:

Class:

Name:

Address:

City/State/Zip:

Phone:

Fax:

Packet Address:

Email Address:

Member of: ARRL?

Other QRP clubs:

Occupation:

QRP: Active? Inactive? New to QRP? Interested in QRP?

QRP Equipment used:

Bands operated:

Interests:	Technical?	Operating?	DX?	Contests?
	Construction?	Portable?	Mobile?	QRPP?
	VHF/UHF?	Digital modes?	Antennas?	Other?

Signature/Call:

Date:

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: fred@ott.net (Fred Ringwald)  
Subject: [4635] Explorer II/KC1  
Message-ID: <199602240224.UAA13356@is.ott.net>

Has anyone succeeded in interfacing a KC1 with an OHR Explorer II? I would be interested in knowing where you connected the VFO, Mute, and Audio lines, and what values you used for Cv, Ca, and Ra.

Thanks for your help!

73s

Fred Ringwald 913-242-4829  
2228 Labette Road fred@ott.net  
Ottawa, KS 66067-8977 AB0AE

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: RobCap@aol.com  
Subject: [4621] For Sale (or trade): Norcal Sierra  
Message-ID: <960223162539\_229635539@emout07.mail.aol.com>

For Sale: Original Sierra by the Norcal QRP club. The radio was built by me, and has some mods included: 1) built-in speaker, 2) rear-mounted power pot, 3) Built in panel fuse, 4) substitution of PL-259 for the original BNC antenna jack. Note: no band modules are included, so purchaser must furnish his/her own band modules.

Price is \$150, which includes UPS ground shipping. I would also be open to creative trades.

I think that this is quite a bargain. A new (unbuilt) Sierra without modules goes for about \$200.

73,

Rob, WA3ULH

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996

From: adams@chuck.dallas.sgi.com (chuck adams)  
Subject: [4615] FOX Tallysheet  
Message-ID: <199602231855.SAA03379@chuck.dallas.sgi.com>

Gang,

This is difficult paperwork, so bear with me if I make errors and/or fox has a typo. Let them and me know and we will work out the details. Give us log dates and times for crossreferencing. We will have plenty of time to correct and the archives have the records for backup. You want a way to kill a lot of time, just sponsor a little activity like this. :-)

Totals		Fox		Equipment and Ant (if known)
---	-----	-----	-----	-----
81	39+42	NA5K	Smitty	TS-50 + S&S ARK4(W03Bs) @ 5W 40M Delta Loop
75	35+40	NA5N	Paul	
52	27+25	N6ULU	Stan	NorCal 40 at 4W and 2 el yagi
45	28+17	AB5OU	Tim	TS140S @ 4.8W 70' wire with 300ohm twin lead
43	14+29	WW7Y	Steve	
35	26+ 9	AA0XZ	Greg	
34	14+20	W03B	Bob	Scout @ 4W and QRP+ 4 lambda skyloop@55'
28	18+10	WB8ZJL	Paul	
27	15+12	WB3GCK	Craig	
26	5+21	WJ2V	Preston	
22	20+ 2	N2CX	Joe	
18	12+ 6	KV2X	Tom	Swan Astro 102@2W 1/4 40M verticle
17	9+ 8	NN9K	Pete	
	20	WA3NNA	Pete	
	25	WA4NID	Dave	
	36	KK6MC	Duffey	
	18	KJ4XR	Ken	



23	K5FO	Chuck
7	NQ7K	Mike
10	N4AOX	Clay
5	VE7CQK	Paul
6	N9UXU	Dave
36	AA4XX	Paul
15	WB4ZKA	Mike

-- leader(s) of the pack in order to shorten statistics

----> WA9PWP(20) N6ULU(18) K5UP(15) AK5B(15) W00Q(14)  
W6ZH(14)

-- number of times a fox was worked in parenthesis if more than one

0 -- W00Q(16) AA0XZ(8) KB0WZ(7) KB0LMQ(3) N0OCT NG0N(3) WI0W  
NF0R AA0XI(2) AA0YU(3) KB0PBQ KI0G AA0QU AA0VF W0KQC  
N0UVR KC0OS N0TFI N0WM WB0WQS

1 -- KC1GS(3) KC1FB(5) AA1IK(5) W1HUE(8)  
KC1DI AA10C N01E N1QPR WA1GUV(2) WA1LNP N1RXT

2 -- KC2DU(10) AA2WJ(6) AA2PF(6) N2KPY(2) N2MNN(5) N2CX(3)  
K2NF(15) KV2X(3) N2KPY N2CX WB2SXN WJ2V N2VPK(2) KF2PH  
WZ2T KE2WB(2) KF2ON N2VPK N2GO N2WLQ N2YRJ K2VNM

3 -- W3PM(12) N3KFL(11) WA3NNA(5) W3PM(2)  
WA3YON AA3AV W03B(3) K3TKS(3) KA3EAJ(2) N3PM WA3JPG  
KA3WMJ K3ETS(3) K3VOA AA3EJ WB3GCK

4 -- NZ4I(11) N4AOX(5) K4JPN(2) KC4EWT(4)  
KE4PC WB4TPW(6) WA4KAC(2) KM4LT AB4EL(2) WB4BDS(2) WB4TBW  
KD4HZ WD4MPS(4) AC4HF AA4YZ KF4DNL WB4ZKA AE4IC(7)  
WJ4P(4) WA4FTM KJ4XR N4XXR NR4N(2) N4EUK AD4ZE  
KT4HB WB4TWE KC4EWT KC4URI K4CGY N4UCM KE4HNS AA4YZ  
KS4XS

5 -- K5UP(18) AK5B(18) W5HNS(17) AB5OU(14) KC5EQC(13) KK5KX(5)  
KA5T(11) K5FO(2) NA5K(5) KA5DVS AB5DG AB5EU  
WD5GNW(2) KI5EZ KK5NA(2) WA5WHN K5ERJ(3)  
AB5TZ(5) AB5QE(2) KB5AA KC5FGE W5XE(2) W5RMZ WB5QMP(6)  
N5SS AB5WB WB5IRI(2) KK5RO(7) AB5UA(8) WA5YFY WA5ZTP  
WB5LXA WB5FKC KF5IU N5OCD(2) KF5IV W5TEH(2) N5GW AB5B  
AC5BC KC5RAS KB5YIX KC5GTQ AA5EA KC5EQK NA5N KK5RO(2)  
W5TTE AB5AA

6 -- N6ULU(20) W6ZH(17) NU6U(5) AB6DG(8) KK6MC(7)  
WA6HHQ(2) WA6MOK(2) KE6YAR WB6HQK(2) WA6HUE(2) AC6IY(5) WB6Q  
WI6I N6GA N6WG(2) KC6EIJ N6MM(5) AC6KW K6VNX(4) K06KA(3) AA6XZ KQ6AG  
WB6TJF K6CA K6QQ W6BAB WA6NAE K6VNX(2) K6UNO

7 -- WW7Y(10) N7MFB(2) AA7QU(5)  
AL7GQ NQ7K(5) AA7QY(7) AB7JX(4) WA7FCU(6) KD7S  
AB7HI(2) KB7SOK KC7AKW N7RMQ KC7NEV(3) NQ7X(8)

KG7WS NQ7B AA7TQ WT7F(2) KJ7DN W7WC  
8 -- N8ET(2) WB8ZJL(7) K8DD(6)  
WB8AJD N8VAR(5) KF8EE(2) WB8RUQ KF8SG  
WA8ALX WB8E(2) WA8ZOF WK8S KB8LFQ W8BE  
9 -- WA9PWP(22) KB9IUA(4) K9DZE(6)  
W9LTL N9DD AE9K(2) WA9YLB NN9K(5) WB9LKC(7) AE9F(2)  
KA9NSA WB9QDL N9XVZ WD9EYB N9SAI AB9W NN9H KC9RH  
  
DX-- VA3TAR(2) VE3DNL(6) VE7CQK(4) VO1CRB VE5VA(2) VA3TAR

--  
Chuck Adams (K5FO CP-60) adams@sgi.com  
Box 181150, Dallas, TX 75218-8150

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: ddw2@Lehigh.EDU (Dah-Jyuu D. Wang)  
Subject: [4626] FS: Norcal Cascade  
Message-ID: <199602240002.TAA76417@ns3-1.CC.Lehigh.EDU>

I have come to the conclusion that I really don't have time for this gem.  
Bought it from a fellow QRP-Ler awhile back but never get around to it.  
Tx output from 20m side is low (1-2W), other than that, everything works FB.  
Mods include: 1) Mike gain control pot and 2). Tx filter caps replaced with  
mica caps (both 20 and 80m). Rig is not painted yet as Tx on the 20m side is  
low. Rcvr works great on both 80 and 20m.  
I would like to see it goes to a good home where people can get a good use of  
it instead of sitting in my shack collecting dust. I have gotten too many rigs  
and I can get on the air only on weekends.  
I want \$175 and will pay for UPS shipping to continental US. If interested  
please call me at 215-368-0445 (home). Email is fine but I won't be able to  
read them until next Monday.

Thanks and 73/72.

DJ, QRP-L #71

=====

D. J. Wang, Ph.D. N2YKP  
Director of Instrumentation  
ddw2@lehigh.edu  
(610)758-3463 (Ph)  
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Lehigh University  
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Bethlehem, PA 18015

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From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: "Ted Kell" <tkell@nyx.net>  
Subject: [4600] GQRP Members take note  
Message-ID: <9602231348.AA09271@nyx.net>

I take the digest, so I appologise in advance if this has already been discussed. I found this in the gqrp-1 and think that there may be some gqrp members that might be interested.

72

Ted

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From: Brian@brimar.demon.co.uk (Brian Gibbs)  
From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: RobCap@aol.com  
Subject: [4601] Heathkit Nostalgia  
Message-ID: <960223085005\_429706185@emout06.mail.aol.com>

Hi folks-

I started the new HW-9 last night. When it arrived, the box had never been opened. When I slit open the packaging tape, the kit SMELLED new. It doesn't get any better than this.

One has to be impressed with the superb documentation, packaging and quality of the materials. The 3-D parts diagrams are amazing. The metal work on the chassis is first class. [Although the electronic design and receiver performance of the radio cannot compare to the top-of-the-line kits like the Sierra and the OHR-400 that use more modern I.C. components.]

Many of the HW-9 parts come on "tape". The order of the taped parts correllates with the instruction book, and the parts are found on the circuit board in order from top to bottom and from left to right in sections. So locating parts, and finding where they go on the board is a snap. This cuts assembly time dramatically.

When you see this kind of quality, it makes me very nostalgic that Heath is gone. Heath really had a committment to excellence in the business of making kits.

I believe that generations of folks, especially kids, benefitted from the existence of Heathkit because Heath led many people into technical pursuits like science and engineering. I

It also makes me a little nostalgic for the old days of ham radio when building our own equipment was not the exception. It makes me a little sad that so many of the new amateurs are oriented to operating VHF appliances, and have not discovered the joy of old fashioned ham radio.

I'm not on QRP-L, so please cc: any remarks to Robcap@AOL.com

73,

Rob, WA3ULH

From qrp-l@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: David Johnson <djohnson@acpub.duke.edu>  
Subject: [4607] KnightLite Sunday Round Table, and Web Pages  
Message-ID: <Pine.SOL.3.91.960223105539.20119B-100000@bio7.acpub.duke.edu>

Dear KnightLites and all the QRP-L gang:

I wish to invite all to check in with me on the KnightLite Sunday Night 80-meter Round Table this weekend. We will meet on 3710 kHz at 10pm Eastern time Feb 25, which is 0200 UTC Feb 26. I will be net control station at a speed of about 5-10 wpm, so get your rig fired up, and pound some brass with us!

Folks are encouraged to check in at any power level, especially QRP. Some folks have been successful at less than one milliwatt! (That's microwatting!) We try to send around the gavel to each station for comments, and generally have a good time. Hope to hear your fine QRP signal Sunday night!

Also, check out the updated KnightLite Web Pages. The Home Page with other links is at <http://www.duke.edu/~djohnson/>  
I have added many more links to radio-related pages (thanks to Frank, N4EKP, Gary, N3G0, and others!) and have put up a page for the KnightLite-sponsored North Carolina QRP Beacon Project. The log for the beacon reports was furnished by Paul, AA4XX. There is a cumulative list of check-ins to the Round Table, and the KnightLite Roster. Check it out, and send me any additional radio-related

Web sites so I can add them into the links!

72,

Dave

David W. Johnson	QRP ARCI 6546
Amateur Extra WA4NID. Low power enthusiast!	G-QRP 4864
email: djohnson@acpub.duke.edu	NorCal 355
packet: WA4NID@KB4WGA.#DUR.NC.USA.NOAM	TSRAC 3482

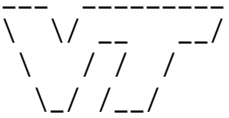
From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: pelt@vt.edu (Randy Pelt)  
Subject: [4606] Mac QST Index 1972-96  
Message-ID: <199602231520.KAA27013@sable.cc.vt.edu>

Since I could not find a computerized index for QST that would run on my Mac, I have compiled the table of contents for my QST's using Excel. It covers the years 1972 to March 1996. Note, this is a Macintosh program. If you'd like a copy, send me \$12. 310 Rucker Rd. Blacksburg, VA 24060

ObQRp: I finally heard the Fox Monday night. Hadn't heard one in over 6 weeks. Here in SW Virginia I can hear the western states pretty good at night on 40, but can get nothing out of the NE- and I'm high, 2,600 feet above sea level.

73

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*****
*Ranson J. Pelt                                     *
*Internal Audit Manager                             *
*Virginia Tech 0328                                *
*Blacksburg, VA 24061                               *
*(540) 231-9475 FAX (540) 231-4681                 *
*                                                    *
*QST de nz4i      Semper Fi                         *
*****
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From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996

From: Larry East <LVE1@inel.gov>  
Subject: [4620] NE602 vs NE612  
Message-ID: <2.2.16.19960223210443.25bf57ae@garnet.inel.gov>

I have seen mentioned on this list that the NE612 is an "improved" version of the NE602 -- however, I note that Newark Electronic's price for the '612 is actually a little less than for the '602. Could someone clue me in on what improvements, if any, are incorporated in the NE612? My Signetics manual that would have that info seems to be missing... (Telling me what Web site(s) to visit for the info won't do me any good as I don't have access to a Web browser at the moment.)

Tnx & 72, Larry W1HUE/7

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: james@research.nj.nec.com (James Bennett)  
Subject: [4613] NJ-QRP on the air  
Message-ID: <9602231815.AA00437@shakti.nj.nec.com>

Tomorrow (Saturday 2-24-96) will be the next NJ-QRP meeting. I am hosting the meeting at my house in Hightstown, NJ. We plan to have some rigs on the air during the meeting (~9am-2pm EST) so be sure to listen for us on at least 40 and 20 and possibly 30M.

73  
James Bennett KA5DVS/2

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: kreinbd@ccgate.dl.nec.com (David Kreinberg)  
Subject: [4619] NO MAIL 2/23  
Message-ID: <9601238251.AA825110503@smtpgw.ccgate.dl.nec.com>

Haven't gotten any mail all day for 2/23.  
Is the server down??

de Dave KK5HA

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: ji3m@scubed.com (James R. Duffey)

Subject: [4616] Receiver Performance, Number of Conversions, and some half-baked ideas for QRP

Message-ID: <v02130502ad5394ca26a0@[192.31.66.224]>

The thread on how the receiver performance is affected by the number of conversions has gone on long enough so that I can no longer resist posting my thoughts on the subject. Some of these thoughts have been rattling around my brain for a while and the present thread has caused me to put electrons to e-mail. I am sure that the MXM receiver is a good performer because it is well designed and thought out, not because it is inherently double conversion.

There are a number of excellent articles in the literature on receiver performance going back to Lamb's original article on single-signal reception in the 30s. Much of the content of these articles is still technically relevant today and should be read by those interested in receiver design. In addition to the articles on receiver performance; several receiver manufacturers, particularly National, used to run ads in QST with significant technical content. I remember several from National on the significance of multiple conversion receivers. These are as significant today as they were then. An afternoon spent in the library reading old QSTs (50s and 60s) should include a perusal of these ads.

In the mid 70s (I think it was December 77, but I don't have the reference here at work) Sherwood wrote an excellent article for Ham Radio magazine on the shortcomings of various radios of the day and ideas on how to fix some of them. He touched on the multiple conversion issue. The distribution of gain in a receiver is more important than the number of conversions. The most receiver gain should be after the main selectivity determining elements. This keeps strong signals out of the passband of interest from deteriorating receiver performance.

There are excellent performing receivers like the Collins 75S3 series which have a conversion to a wide first IF and then another conversion to a second 455 kHz IF. The gain of the first IF is low because the selectivity is wide. Most of the gain from the receiver comes after the 455 kHz filters where the bandwidth is narrow. This is an excellent performing double conversion receiver.

There are also excellent performing single conversion receivers. The receiver in the Drake TR-4 is an example, as is the receiver in the Atlas 210 series. The Atlas uses a double balanced diode ring mixer which is unfortunately not terminated properly at the IF port or the performance would be even better. The diode mixer in the Atlas 210 is followed by a crystal filter at 5 MHz if memory serves me correctly.

Sherwood also gives examples of poorly performing receivers and why. For large signal handling it usually is due to insignificant selectivity before

high gain stages.

Modern superhetrodyne receiver design has gone to upconversion so the images and birdies common to superhetrodyne designs are easily eliminated with a simple low pass filter. Narrow selectivity available from filters at the higher IFs (45 MHz and above) is more difficult to achieve, so gain at the first IF must be kept low for good performance. Also, since modern rigs have tried to become all things to all people, the first IF filter is usually fairly wide to accommodate 10 meter FM and general coverage AM shortwave broadcast reception. None the less, modern rigs such as the Kenwood TS-850 have achieved excellent performance in nearly all areas, largely due to careful attention to distribution of gain in the receiver.

This, of course, brings us to the design of current QRP rigs. I admit I am a bit out of my element of expertise here as my QRP rig is a modern TS 850 with the power throttled down. It would be better to have someone like Paul, NA5N, who has made extensive measurements on the currently available crop of QRP rigs, comment. Paul is not bashful and will, I am sure correct any misconceptions I promulgate.

The use of the endemic NE602-MC1350-NE602 single conversion scheme for homebrew receivers is a simple, straightforward, and cost effective way to make a radio. It clearly shows the impact of modern integrated circuit technology on ham radio has been good as relatively good performing receivers can be made by modern hams rather simply and at low cost. The performance of a receiver made up of this combination is not as bad as it would appear from just looking at the NE602's intercept points in the data sheets. The main drawback of this combination is the amount of gain, 15 dB or so before the main selectivity element, usually a crystal filter following the first mixer. This amount of gain before the crystal filter makes the receiver sensitive to nearby QRO stations, foreign broadcast stations on 40M, and crowded band conditions in general. This problem is somewhat mitigated by the use of double pole preselectors by many rigs in front of the NE602 which provide some selectivity, and the additional use of the transmitter's low pass filter to provide filtering by some QRP transceivers. This front end filtering, by the way, is an area in which the QRP rigs of today are superior to many modern commercial rigs; most commercial rigs do not have significant preselection and filtering prior to the first mixer.

It would seem that the use of the relatively high gain, 50 dB or so, MC1350 for an IF amplifier in these rigs would put the second NE602 used as a product detector in a similar sensitive position to strong signals, but this is generally not the case in practice. This is due to the use of AGC on many of the QRP rigs which can reduce the gain of the MC1350 to 20 dB or so on most reasonable signals. I believe that the NN1G 4040 rigs forego the use of the MC1350 altogether relying on the inherent gain of the NE602s connected by a crystal filter, good audio filtering and high gain



audio stages. On 40 and 80 the noise levels encountered even at a rural site are relatively large and hence receivers with relatively large noise factors and low gain can be tolerated. 20 M is a transition band, but noise levels there can also be relatively large, particularly for urban and suburban locations.

How can these simple rigs be improved without compromising their inherent simplicity and low cost? I have given this some thought and have the following suggestions, starting from the antenna end. These are the results of my thinking and reading in the literature. I am not really a competent homebrewer or RF designer so take these ideas with a grain of salt.

a) The use of additional poles of front end filtering would provide additional selectivity before the NE602. The venerable Collins R390 uses three poles of filtering before the first mixer which is largely responsible for its good strong signal performance as the intercept point of the first tube mixer by itself is not all that great. The addition of another pole of filtering to simple receivers would complicate the alignment and tuning of this filter, but tracking of multiple stage tuned circuits is well understood and has been hashed over many times in the amateur literature. If an antenna tuner is used in the set up it can provide additional selectivity if an appropriate design is used. A tapped, paralalled LC circuit used as a tuner should give good results.

b) Reduce the overall gain (increase the noise figure) of the receiver to just that necessary to overcome the inherent noise at the antenna terminals. This can be done with the simple QRP rigs by inserting an attenuator before the first NE602 mixer. Depending on the Q of the components used to make up the front end filters, I suspect that a 6dB pad would be a good place to start. I realize that deliberately reducing the sensitivity of a receiver is heretical to some, but sensitivity is not the overriding concern at 40 M. The important thing to remember is that it is the signal-to noise-ratio that is important, not just the strength of the signal. As long as the signal-to-noise ratio at the receiver output can be maintained, the strong signal performance of a receiver will improve as the sensitivity is decreased without overall receiver performance degradation.

c) Make sure that the filter following the NE602 is properly terminated. This can improve the selectivity of the filter and reduce the pass band ripple. The input and output impedance of the typical crystal filter following the NE602 is several hundred ohms, while the output impedance of the NE602 and input impedance of the MC1350 is several thousand ohms. This is a relatively large mismatch. Some QRP rigs properly terminate the crystal filter, some do not.

d) Make sure that there is no leakage of signal from the input of the crystal filter to the output. This will degrade selectivity. In order of imporatance; placing a shield between the output and input of the filter

will help, as will placing a shield between each stage, as will enclosing the entire filter in a box. Similar comments apply to the front end filter, but there is generally less interaction between stages, particularly if torroids are used for the tuned circuits.

e) Use manual IF gain control on the MC1350 and keep it to the minimum required for good copy.

f) An additional simple crystal filter following the MC1350 and before the NE602 product detector will reduce the wideband noise introduced by the MC1350 and hence reduce the amount of gain required before that stage to overcome the noise. A simple two pole crystal filter should be sufficient. Be sure that it is properly terminated.

g) Be sure that any audio filtering is done before the audio gain stages. If a DSP is used, moving it from the audio output to after the product detector and before the audio preamplifier should help. It too needs to be properly terminated. If audio derived AGC is used, putting more filtering before the point where the audio agc is derived will also help strong signal performance.

h) With almost any receiver, better reception of weak signals in the presence of strong signals can be had by turning off the AGC, backing off on the RF gain until the signal is just receivable and controlling the volume by using the audio gain control.

Well this post is much longer than I anticipated and I am sure that I have overstepped my expertise in receiver design. Paul-HELP!!-Duffey KK6MC/5

James R Duffey KK6MC/5 DM65  
30 Casa Loma Road  
Cedar Crest, NM 87008

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: bmitchel@kodak.com (Brad Mitchell)  
Subject: [4614] Scout Current Draw VS Argo  
Message-ID: <9602231814.AA18002@iiatasun.cba.Kodak.COM>

Last couple of days , people have been asking me " what's the current draw of the Scout at 5w vs the 556 Argo"?

My answer has been duh.

Anybody know?

I'm sick of the no answer answer, and I just don't have time to do the test on my Scout 555.

73 Brad WB8YGG

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: torell@sicom.com (Kent Torell)  
Subject: [4609] solar forecast  
Message-ID: <v02130500ad539185f65f@[192.91.202.41]>

This week's forecast from Canada follows. Forecasting another poor weekend, but last weekend wasn't as bad as forecast.....

-----  
WEEKLY STFR FORECAST VALID: 23 February to 03 March 1996

		10.7 cm	HF	Propagation	+/-	CON	Mag	Aurora					
		SolrFlx	LO	MI	HI	PO	SWF	%MUF	%K	Ap	LO	MI	HI
		---	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Feb	23	073		G	G	F	F	01	00	75	2	05	NV NV LO
	24	074		G	G	F	F	01	-05	75	3	10	NV NV LO
	25	074		G	G	F	F	01	-10	70	4	13	NV NV MO
	26	074		G	G	F	F	01	-05	70	3	10	NV NV LO
	27	074		G	G	F	F	01	00	70	2	05	NV NV LO
	28	074		G	G	F	F	01	00	70	2	05	NV NV LO
	29	073		G	G	F	F	01	00	70	2	05	NV NV LO
Mar	01	072		G	G	F	F	01	00	70	2	05	NV NV LO
	02	072		G	G	F	F	01	00	70	2	05	NV NV LO
	03	071		G	G	F	F	01	00	70	2	05	NV NV LO

Report Released by the Solar Terrestrial Dispatch  
P.O. Box 357, Stirling, Alberta, Canada, T0K 2E0  
Accessible BBS System: (403) 756-3008

INTERNET FTP: solar.uleth.ca (in pub/solar)  
INTERNET FINGER: finger solar@solar.uleth.ca  
INTERNET WWW: <http://solar.uleth.ca/solar>

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-----  
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E-Mail: [COler@Solar.Stanford.Edu](mailto:COler@Solar.Stanford.Edu) for enrollment forms.

Kent Torell      torell@sicom.com      602-483-2867 x40  
SICOM      7585 E. Redfield, #202      Scottsdale, AZ      85260

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: Jack Bryant <Jack.Bryant@math.tamu.edu>  
Subject: [4599] Ten-Tec 580D hangup  
Message-ID: <199602230519.XAA05025@fourier.math.tamu.edu>

This isn't my radio, but I have a friend [ KB5W ] who has one, and it is hung up with all 8's on the display and no audio. How do you reset the microprocessor? It is a really neat low power intended for mobile rig. Jim has tried removing all power; I suspect it has backup power somewhere! A display doesn't work for nothing. Any ideas would be most appreciated. Please send them to me unless you think I have missed something really obvious. Flames welcome!

-Jack W5TFB     I noticed:    ins->isn't woh->who    apr -> appr  
                             sent->send

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: ruswhite@netzone.com (Russell W. White)  
Subject: [4623] Thanks for GAP info  
Message-ID: <199602232311.0AA17019@nz1.netzone.com>

I would like to thank those of you who responded to my request about the GAP Titan vertical antenna. I received quite a bit of real useful information which will go a long way towards helping me come to a decision about buying one.

If anyone out there wants to add to the info please feel free to do so.

agn, tn timer 73, Russ AB7JX

```
|*****|
| Russ White AB7JX (ex WB1GQG) QRP-ARCI NORCAL NEQRP |
| Phoenix AZ QRP-L#179 ARRL AZQRP#3 |
|*****|
```

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: Phillip Cuchetti <ab082@traverse.lib.mi.us>  
Subject: [4634] tn timer to all  
Message-ID: <Pine.ULT.3.90.960223210147.15718B-1000000@traverse.lib.mi.us>

Tnx to all who have sent me notes about the W1FB/8P6EU qrp rig I just bought.  
Today I worked a KP4TF in P.R. with a 579 rst.Joy and thrills I'll tell ya.  
Not great dx but still quite a thrill running 8 watts.This reminds me of  
going wayyyyyyy back to when I was a 12 year old novice using a  
hw16 rock bound and a home brew 15 mtr rotatable dipole I built from the arrl  
handbook.

I worked el2cb one morning early and I still don't need to look the call  
up to remember it.hi

The dipole was mounted on a 10 foot 4x4 and plopped in a hole I dug in  
the ground.It was rotatable alright.hihi

Using this little 20 mtr cw rig by W1FB is this much of a thrill for me.

Long live qrp!

72..Phil KD8UX #106..qrp-1

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: Bill Acito 23-Feb-1996 1602 <acito@asdg.ENET.dec.com>  
Subject: [4622] W1AW(QRP) next week  
Message-ID: <9602232137.AA15432@us1rmc.bb.dec.com>

Myself and a couple of other local hams are planning a day down at  
W1AW next Wednesday, Feb 28.

If anyone is home (or out at lunch hour) during the day (1-4  
Eastern), and is looking for W1AW on a particular band, send me  
mail to set up a sched.

QRP-NE will also be meeting at W1AW on March 10. Listen  
for W1AW/QRP on that Sunday.

Hmmm... maybe a special event club fox, Chuck?

b

. . . . . - I own my own words - . . . . .

Bill Acito

acito@asdg.enet.dec.com

|d|i|g|i|t|a|l| Digital Equipment Corporation Hudson, MA

KC1GS ... qrp-ne ... qrp-l ... qrp-arci ... norcal ... arrl life ...

From qrp-l@Lehigh.EDU Sat Feb 24 06:33:52 1996

From: "Rafael Garcia (EA4RJ)" <tie@bitmailer.net>

Subject: [4612] Which vertical antenna for 30m?

Message-ID: <Pine.LNX.3.91.960223124736.97A-100000@ea4rj.ampr.org>

Just finished my new OHR Explorer II for 30m, it is the time to think which kind of aerial to put this rig on the air... Now I'm listening, when band is open, with a few meters of wire running across two rooms, with great success, and I don't want to xmit with this by now.

Well most of you we'll think I starterd the building by the top, instead of the ground.. but at this moment I have not HF aerials due my main operation at 'digi-droid' satelllites.

I'm looking for experiences of anyone who has built a short vertical for 30m. I am thinking in an 1/8 wave lenght, but perhaps is too short for this band. I cannot put a dipole because the roof does not allow that.

Regards,

Rafael,

Madrid (Spain)

From qrp-l@Lehigh.EDU Sat Feb 24 06:33:52 1996

From: aa7qy@primenet.com (Roger Hightower)

Subject: [4605] Re: 40-9er off board parts?  
Message-ID: <199602231512.IAA27000@usr4.primenet.com>

At 09:49 AM 2/23/96 EST, Fred Ringwald wrote:  
>Would someone please let us know what off-board (i.e. chassis mounted)  
>parts are needed to build the 40-9er.

The project calls for 1 9v battery connector, 2 - 1/8" chassis mount phone jacks, 1 BNC chassis mount antenna connector, hookup wire and small case or cabinet.

72/73, de Roger AA7QY

NorCal 1099    CoQRP 176    QRP-L 62    G-QRP 9081    ARCI 8946    NE-QRP 383

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: Paul Erickson <paul1@wizard.ucs.sfu.ca>  
Subject: [4598] Re: Audio Filter  
Message-ID: <9602230516.AA00729@wizard.ucs.sfu.ca>

>  
> Hello Gang,  
>  
> I'd like to get a CW filter for my Icom IC-728 but the Icom filter runs for  
> \$99 from most vendors I saw two circuits in the ARRL 95 Handbook. The active  
> filter is kitted by OHR.

Hi Kevin, I built the scf filter from boards that I got from far circuits. As external audio filters go it is pretty cost effective. Ultimately, you may find that it does not meet all your needs depending upon the type of operating you do. If you are into dx pileups of contesting, external audio filters are no substitute for if xtal filters. If the Icom filter you mention is an if filter, the price is not bad, although you might want to check with IRC. I used a timewave filter with my qrp+ during the ARRL DX contest, and it never was the deciding factor in making a qso. They can be very good at digging out a lone weak signal, but if they are next to a very strong signal, anything getting through the if filter will cause the signal of the one you are after to drop down. If you can, I would try one out before you committ yourself.

cheers, Paul  
VE7CQK  
email: paul1@wizard.ucs.sfu.ca

>  
> Does anyone have anything they can suggest. Has anyone seen the filters

> described in the Handbook? I need something for that rig but don't want to  
> spend that much if I can avoid it now.  
>  
> Tnx es 73 de Kevin KB2TEO  
>  
>  
>  
>

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: "Robert J. Gobrick" <rgobrick@nflld.com>  
Subject: [4630] Re: Audio Filter  
Message-ID: <2.2.32.19960223013229.00757014@public.compusult.nf.ca>

Hi Kevin,

Well this is my opinion on your question (well who's else opinion could it be :^). Forget the add on audio filters for the time being and invest in the Icom (or International Radio) IF CW filter - it is a much better investment for what is one of the nicest triple conversion rigs in that price range. An IF filter offers the advantage of providing selectivity early on before interfering signals affect the automatic gain control (AGC) circuits of a rig and eventually the audio stages of the rig. Just think what a post audio filter (like the ones you mention including the fancy DSP filters) has to contend with when there is minimum filtering in the Intermediate Frequency (IF) stages - it has to work a lot harder to clear all that crud out. Once you have a nice crystal filter (typically 6 poles of crystal filtering for Icom/Kenwood/Yaesu or 8 poles for International Radio) THEN look at adding some additional bells and whistles with an audio filter. One of my favorite rigs is my old standby Ten Tec Argosy II that has a 6 pole IF filter and two stages of audio filtering - the best of both worlds. That Argosy is no where near the radio your Icom IC-728 is but you can see where the filters really help.

Finally put a "want" for a used cw filter for your rig - one nice thing about a number of the newer rigs is that the filters are plug in types so if you find a disenchanted cw or digital operator who wants to sell his filter used then you are in luck. Also if it makes a difference, buying a plug in IF filter now allows you to sell that filter later on in the used markets (many folks are beginning to realize the benefit of a 500 Hz IF filter for rtty/amtorg/pactor work).

Good luck 73/72 Bob V01DRB/WA6ERB



At 23:44 2/22/96 EST, you wrote:

>Hello Gang,

>

>I'd like to get a CW filter for my Icom IC-728 but the Icom filter runs for  
>\$99 from most vendors I saw two circuits in the ARRL 95 Handbook. The active  
>filter is kitted by OHR.

>

>Does anyone have anything they can suggest. Has anyone seen the filters  
>described in the Handbook? I need something for that rig but don't want to  
>spend that much if I can avoid it now.

>

>Tnx es 73 de Kevin KB2TE0

>

>

>

>

>

```
-----
| Bob Gobrick - VO1DRB/WA6ERB/VE2DRB - Newfoundland, Canada |
| QRPPer Galore - ARCI, GQRP, NORCAL, NEQRP, COQRP, MIQRP, NWQRP |
| Internet:      rgobrick@nfld.com |
|                bgobrick@nlnet.nf.ca |
| Compuserve:   70466.1405@compuserve.com |
|-----
```

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996

From: "Jim Kortge, NU8N" <jokortge@tir.com>

Subject: [4627] Re: Cascade DX

Message-ID: <9602240116.AA27922@lisp.com>

At 11:42 PM 2/22/96 -0800, you wrote:

>VK on what band? Was is 80 or 20? Or one of the mods to 40/17?

>Pls and tnx (inquiring minds want to know!!)

>73/72 de alan

>

>

> [ <Alan Kaul, W6RCL> ] kaul@netcom.com

>

>

Jeez...I guess I screwed up big time Alan. It was  
on 40 meters. I guess I was too excited to include that  
in the post. I post this reply to the gang so I don't  
get 100 more inquiries!! :-)

72...Jim

Jim Kortge, NU8N		BMHA, NorCal, QRP-L
jokortge@tir.com	__o	Cascade 17/40 SSB
Fenton, MI	_`<	Mizuho 17/40 SSB
.. .. .	(*)/(*)	. . . . .

From qrp-l@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: David Johnson <djohnson@acpub.duke.edu>  
Subject: [4611] Re: Correction on Time for KnightLite Round Table  
Message-ID: <Pine.SOL.3.91.960223122649.20722B-100000@bio7.acpub.duke.edu>

On Fri, 23 Feb 1996, I did hastily and mistakenly write:

> I wish to invite all to check in with me on the KnightLite  
> Sunday Night 80-meter Round Table this weekend. We will  
> meet on 3710 kHz at 10pm Eastern time Feb 25, which is  
> 0200 UTC Feb 26.

CORRECTION! That is 0300 UTC. Sorry for the error; I am too hasty today! Please recheck your schedule, so you can be sure to join the Knights at the Round Table.

Pound some brass Sunday night with the Knights!

72,

Dave

David W. Johnson	QRP ARCI 6546
Amateur Extra WA4NID. Low power enthusiast!	G-QRP 4864
email: djohnson@acpub.duke.edu	NorCal 355
packet: WA4NID@KB4WGA.#DUR.NC.USA.NOAM	TSRAC 3482

From qrp-l@Lehigh.EDU Sat Feb 24 06:33:52 1996  
Subject: GQRP - Club members on Email.

Hi, as many of you will know, I have been compiling a list of G-QRP-C members on Email. So far there are over one hundred club members who have forwarded their Email address for inclusion on the

list. I will be glad to Email a copy of the list to club members who are interested. However, it may be a good idea to wait a few days, in case this posting brings forth any further information. If in the meanwhile, you have decided that you do not want your Email details broadcast, simply let me know and I will erase it from the database. I intend to maintain the list, and to post reminders about it to this group, mainly for the benefit of newcomers to the club. Looking forward to hearing from you.....vy 72/3....Brian

-----  
Brian Gibbs                      Email: brian@brimar.demon.co.uk  
Neston, Wiltshire. UK          Packet: g3mbn @ gb7sdn.#49.gbr.eu  
-----

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: prvalko <prvalko@Oakland.edu>  
Subject: [4604] Re: K5FO Visit  
Message-ID: <Pine.OSF.3.91.960223094810.29518A-100000@saturn.acs.oakland.edu>

I have to share with the group the GREAT time we had with Chuck, K5FO (Father of the Fox Hunt) last night!

Chuck was up here in Detroit on biz-ness and I aranged a get together at a local watering hole.

I met up with K5FO, Walt WB8E, and Bill AA8LZ (both local QRP fans but not on the net) at 7:30. We put a big dent on the gigantic pizza and had a couple frosties to wash it down.

Chuck brought an immaculate NE-40 for show and tell. He also shared some secrets and we all swaped tales of QRP adventures. We talked of many other famous QRP personalities as well as KEYS, QDOPE, Not building unassembled kits, not opening mail, 10 and a half meter bandplan, DX, Canadian and Mexican Ops, Mobile, politics, Roy Orbison, Madonna's High School yearbook...sheeze... just about everything under that QRP-Lovin' sun.

Chuck was impressed with our local club planning an ALL QRP Field Day this year in the 17A class, yup, \*17\* QRP stations running at the same time!

I think we all could have stayed longer but I knew K5FO had an early class to teach.

We plan on meeting up at the Livionia Swap this Sunday and want to get together again NEXT THURSDAY for those of you in Southeast Michigan.

Chuck is a scholar (for real) and a gentleman, but don't play Texas Hold-Em with him ;-), if you ever get the chance to meet up with K5F0 on his travels, make every effort to do so.

vy 73! =paul= wb8zjl

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: "Robert J. Gobrick" <rgobrick@nfld.com>  
Subject: [4629] Re: Mac QST Index 1972-96  
Message-ID: <2.2.32.19960223013236.0075425c@public.compuserve.nf.ca>

Ranson,

A dumb question since the Mac revolution passed me by (jumped from a Tandy TRS-1 to IBM format - couldn't afford that fancy Apple stuff :^) - Can you transport" Excel from the Mac to an Excel file for Windows? If so I'd be interested in hearing more about your program - I know it takes a lot of work and my ole trust "From Beverages to Oscar" lookup database by Rich Rosen is getting old and I don't know if they are ever going to update that great software.

Thanks Ranson.

73/72 Bob V01DRB/WA6ERRB

At 10:21 2/23/96 EST, you wrote:

>Since I could not find a computerized index for QST that would run on my  
>Mac, I have compiled the table of contents for my QST's using Excel. It  
>covers the years 1972 to March 1996. Note, this is a Macintosh program.  
>If you'd like a copy, send me \$12. 310 Rucker Rd. Blacksburg, VA 24060  
>

Bob Gobrick - V01DRB/WA6ERB/VE2DRB - Newfoundland, Canada
QRPer Galore - ARCI, GQRP, NORCAL, NEQRP, COQRP, MIQRP, NWQRP
Internet: rgobrick@nfld.com
bgobrick@nlnet.nf.ca
Compuserve: 70466.1405@compuserve.com

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: JC\_Smith@designlink.com (JC Smith)  
Subject: [4631] Re: Mac QST Index 1972-96  
Message-ID: <1347014589.103360100@designlink.com>

Since I could not find a computerized index for QST that would run on my Mac, I have compiled the table of contents for my QST's using Excel.

This posting seems to imply that there is one for PCs, anyone know where it is available?

72 - JC, KC6EIJ  
kc6eij@amsat.org

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From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: "'AB7HI' Stephen Lee" <slee@u.washington.edu>  
Subject: [4624] Re: NE602 vs NE612  
Message-ID: <Pine.A32.3.91j.960223143439.122324A-100000@homer29.u.washington.edu>

Am looking over the specs on these two mixer IC's as I write. The reference is Signetics' Linear Data Manual, Volume 1, Communicaitons, dated 1989.

Let me start out by saying the block diagram, equivalent circuit, test configuration and pinouts are all the same.

There are some differences in their AC/DC electrical characteristics tables. The NE602 is tested for max limits of noise (6.0 dB figured at 45 MHz), third order intercept point (-17 dBm with RFin=45dBm, f1=45.0, f2=45.06), and RF input capacitance (3.5 pF). These data are not published for the NE612. In addition, the NE612 can have a max current draw of 3.0 mA versus 2.8mA for the NE602. All other data shown in these tables are typical or minimum values. For either device this data appears to be the same.

The gain curve of the NE612 is about 3 dB less than the same

curve for the NE602 throughout its Vcc range.<<So here's the rub.

73 all...

Stephen Lee, AB7HI

slee@u.washington.edu

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996

From: Paul Harden <pharden@aoc.nrao.edu>

Subject: [4637] Re: NE602 vs NE612

Message-ID: <199602240336.UAA07701@zia.aoc.nrao.edu>

Larry (and others),

The Signetics NE602 was developed primarily for the onset of the pocket pager industry and wireless telephones. The oscillator is limited to about 200MHz and the RF input spec'd at 500MHz.

Signetics is no more, now owned by Philips Semiconductors. Philips re-engineered the NE602 for use by cell phones, raising its RF input capabilities to include the 900MHz region. This is the NE612, which in most other respects, identical to the good old 602.

I have heard that at first, the chips were tested and if it worked at 900MHz (cell-phone freq.) it got stamped NE612, and all others NE602's. I don't know this to be absolutely true. I have also heard that under the arrangements of the sale of Signetics, the licensing agreement of NE602's was not allowed to leave Philips. So when Philips made the 900MHz units, rather than adding a dash number (like NE602-2), they redesignated it NE612 so they were no longer bound by the licensing agreement (in other words, let other people make it and you get a royalty).

I replaced a couple of NE602's in my MFJ9040 with NE612's. I have yet to notice any difference in performance. I did not check the current drain and things like that, but the spectrum output looks the same, same power levels, etc. At least at 7MHz! I doubt any difference would be noticeable in HF applications.

If anybody knows any real difference between a 602 and 612 beyond the elevated bandwidth and the above rumors, I too would dearly like to know.

Paul NA5N

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: Jim Eshleman <lujce@hooch.CC.Lehigh.EDU>  
Subject: [4638] Re: NO MAIL 2/23  
Message-ID: <96Feb23.230200est.57461-11573+17@hooch.CC.Lehigh.EDU>

> Haven't gotten any mail all day for 2/23.  
> Is the server down??  
>  
> de Dave KK5HA

ccgate.dl.nec.com is not resolvable via the DNS. If anyone can contact Dave please let him know there's nothing I can do from this end.

73  
Jim N3VXI

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: Paul Harden <pharden@aoc.nrao.edu>  
Subject: [4636] Re: Receiver Performance  
Message-ID: <199602240320.UAA07173@zia.aoc.nrao.edu>

Jim KK6MC/5:  
Excellent, excellent discussion on receivers. You brought out some excellent points that are often overlooked. You also did a great job explaining why these very simple QRP receivers work so well, AND, why they do not. In terms of "bang for the buck," these NE602 based receivers are hard to beat ... but they come with some shortcomings. Dynamic range, gain distribution and the noise temperature (noise factor) are certainly the three serious problems in these little rigs that users need to be aware of. And if so inclined, apply some of the principles you outlined to make improvements.

I suggest everyone go back and get the copy of Jim's original post (before it's too late) and print it out. There's dozens of pages of info from the ARRL handbook, Solid State Design Manual and other books condensed into a well organized, presentable form. Jim saved you a lot of work!

But I will add for those who might be a bit confused at this point ... so why didn't the designers of these rigs do a better job? The designers of these rigs (Rick Littlefield, Wayne Burdick, Dave Benson, and others) deserve a place in history for squeezing so much performance out of a handful of commercially available components. They are simple designs that come with compromises ... BUT, unheralded

in terms of cost (\$50-150), ease of construction, and virtually "sailor-proof" to build and get working ... yet yielding a very respectable performance. Some of the "tricks" used to save parts are outright ingenious. To get a better QRP rig, the cost of the kit will have to go up considerably, the circuit will be much more complicated, and likely requiring fancy test equipment to get aligned before daring to make that first QSO. The cost becomes exponential from this point on. But read Jim's receiver information, and you will find a couple of areas where you CAN make improvements if you are comfortable enough with going into your rig and trying things. (Not for the faint at heart!). But it will make you understand why the performance of one receiver over another is not merely a function of the IF frequency chosen or number of conversions that takes place.

Great post, Jim.

Paul NA5N

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: "Robert J. Gobrick" <rgobrick@nfld.com>  
Subject: [4628] Re: Receiver Performance, Number of Conversions, and some  
Message-ID: <2.2.32.19960223013238.00c453b0@public.compuser.net>

James,

An excellent commentary on your thoughts of receiver design for QRP rigs - I notice your in New Mexico - is there something about that place that draws you and Paul down there - I lived in El Paso for a while and all I remember was going over to Las Cruces for some good native American "South of the Border" food (done with New Mexico peppers..)

Anyway some comments:

One design that I would liked to see explored a little more is that great ole Atlas 210 receiver design - it's hard to believe that back in 1970's they used a static ring mixer front end with a nice 8 pole filter. It was a marvel then and I still think today a "classic" design. Dick over at Oak Hills Research has based his Spirit/Classic/Quadbander design on a MiniCircuit front end mixer proceeded by a low noise low gain rf preamp stage to pick up a little gain lost in the front end filtering circuit. I suspect this to be the best of both worlds when using a static ring mixer. Index Lab also uses a static ring mixer for it's front end (no preamp) but it is used in a healthy up conversion to 50 Mhz with wide band filtering. The only other recent circuit I saw using the static mixer was Zack Lau KH6CP article in QEX a while back on a high performance 40 meter rig (some of the New England QRP guys have built up these rigs). And finally there



was the Heath HW-9 and the W7EL DC rigs..

Finally one other comment (hope I'm not boring you - hi). When Sherwood did a lot of his writings there was one set of mods that I never got around to do (and may some day regret it) and that was to soup up a Drake C line Sherwood/Satorri (sic) style. What Sherwood did was to put a high performance filter (crystal) with just enough bandwidth for SSB on the first and second IF's of the R4C. I think that had to be the cat's meow for selectivity just as long as the gain distribution was done right (which I think they addressed). Any comments.

And finally the modern day rigs have regressed a little backwards to help keep the price down. I've always been an Icom fan (also a TS-850S fan) because Icom used quadruple conversion with up conversions and then decent crystal filtering in the 2nd and third IF (9 and 455 I think). the fourth stage of IF was really for Band Pass Tuning. Good examples of nice designs were the IC-761, IC-735 and TS-850. Now a days the low-medium rigs use dual conversion with varying degrees of performance - the Yaesu FT-890/900 up conversion and 455 Khz second IF (blowby), TS-50 (the same up conversion and 455, and the Ic-706 (up conversion and 9 Mhz IF). I actually prefer the 9 Mhz IF since at least you can get some control over the IF gain. It just seems tough for me to imagine trying to figure out how to do decent gain distribution going from an up conversion IF (70 Mhz or so) all the way down to the final IF at 455KHz AND USING A CHEAP CERAMIC Filter (they do that gang).

Look - see what you started - here I am rambling on. One of these days we need a symposium on simple qrp receiver design methods.. Symposium - oh yes my opportunity - Paul NA5N will be one of our guest presenters at the "Four Days in May (c)" QRP Symposium to be held on Thursday May 16, 1996 Days Inn South Dayton (there I got that out). Maybe we can talk Paul into an evening "break-out" session and trade some stories. Any others interestted?

73/72 Bob VO1DRB/WA6ERB

At 15:40 2/23/96 EST, you wrote:

>The thread on how the receiver performance is affected by the number of  
>conversions has gone on long enough so that I can no longer resist posting  
>my thoughts on the subject. Some of these thoughts have been rattling  
>around my brain for a while and the present thread has caused me to put  
>electrons to e-mail. I am sure that the MXM receiver is a good performer  
>because it is well designed and thought out, not because it is inherently  
>double conversion.  
>

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-----  
| Bob Gobrick - VO1DRB/WA6ERB/VE2DRB - Newfoundland, Canada |  
| QRPer Galore - ARCI, GQRP, NORCAL, NEQRP, COQRP, MIQRP, NWQRP |  
| Internet: rgobrick@nfld.com |  
| bgobrick@nlnet.nf.ca |
```

Compuserve: 70466.1405@compuserve.com

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: Clark Savage Turner WA3JPG <turner@safety.ICS.UCI.EDU>  
Subject: [4632] Re: Receiver Performance, Number of Conversions, and some  
Message-ID: <2933.825126722@safety.ics.uci.edu>

Very interesting thread here. I am not that familiar with the details, but always liked the Drake R4C and read Sherwood's articles and thought about them. I had owned a bunch of Kenwood gear, including the TS 440 and 940 then, and added good quality IRCI filters in the 455 and 8.8 IF's, which improved things a LOT, but didn't satisfy Sherwood's demands for the best design.

I now own the Ten Tec OMNI VI (similar IF strip to the Corsairs) which has just the two IF's : one at 9 MHz and one at 6.3 MHz. They seem to have listened to Sherwood, because at the first IF, Ten Tec gives a minimum of 8 poles of crystal filtering, but gives an option of another 8 poles right there (with a small amplifier to compensate a tiny bit...), then you have the other IF where you can stick in another 8 poles of filtering. Though I have never put it next to another rig for a very careful A/B test, it sure seems to allow me a lot of flexibility in digging out weak signals next to strong ones. I have the standard 2.4 KHz SSB filter in the first IF, with a 500 Hz CW filter there, and can put in either a 500 Hz filter in the 6.3 IF or a 250 Hz filter. I like it.

One question for those who think about it. My OMNI needs a little more gain (maybe another 10 db if my meter has any accuracy at all) to really compensate for the pair of CW filters in line. The amplifier included does little to compensate (or compensates for far more loss than I am aware of!). I wonder where anyone suggests I stick in a preamp in this line? I figured it belonged after the first filter, the 2.4 in the 9 MHz line, though it might be better to stick in in AFTER the first IF CW filter. Similarly, I need to think about matching the preamp to the line and should I consider a 9 MHz tuned circuit instead of a wideband design at this stage?

Clark  
WA3JPG

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: torell@sicom.com (Kent Torell)  
Subject: [4625] Re: Receiver Performance, Number of Conversions, and some half-baked ideas for QRP  
Message-ID: <v02130502ad5401f05be9@[192.91.202.41]>

(generally great observations on receiver design...you sure you don't do this for a living? )

>a) The use of additional poles of front end filtering would provide  
>additional selectivity before the NE602.

This is true for out-of-band signals, such as international  
broadcasters. Won't help the in-band qro problem, tho.

>  
>b) Reduce the overall gain (increase the noise figure) of the receiver to  
>just that necessary to overcome the inherent noise at the antenna  
>terminals. This can be done with the simple QRP rigs by inserting an  
>attenuator before the first NE602 mixer.

This has proven effective in Europe...somebody posted a note about  
taking the prototype sierra to Switzerland, and keeping the rf gain (input  
attenuator) turned down.

>c) Make sure that the filter following the NE602 is properly terminated.

This screwed up my receiver until I terminated it like Wayne did in  
the norcal designs.

>d) Make sure that there is no leakage of signal from the input of the  
>crystal filter to the output.

Yup. Mostly layout driven.

--- more good stuff that I have no quibble with----

>James R Duffey KK6MC/5 DM65  
>30 Casa Loma Road  
>Cedar Crest, NM 87008

Good work, James!

72, ab7oa

Kent Torell     torell@sicom.com     602-483-2867 x40  
SICOM     7585 E. Redfield, #202     Scottsdale, AZ     85260

From qrp-1@Lehigh.EDU Sat Feb 24 06:33:52 1996  
From: JDuffy@aol.com  
Subject: [4603] Re: Re[2]: TEN-TEC SERVICE  
Message-ID: <960223095129\_330736347@mail02.mail.aol.com>

In a message dated 96-02-22 15:13:07 EST, you write:

>  
> Perhaps if those folks had taken a lesson in human relations and  
> management from itty bitty TenTec, they might all be with us today.  
>  
> Thanks TenTec and a big 72,  
>  
> Rick Robinson kf4ar proud owner of Argosy 525 SN: 137  
> rerobins@uncc.edu  
>  
> Rick and Gang:  
>  
> It is exactly for this and other similar reasons that  
> I will be purchasing a TenTec product, as soon as the  
> budget will allow. Nothing against the "BIG THREE", but  
> to me these folks really seem to have their heads and  
> hearts working to make the customer #1.  
>  
> 72 de Dave KK5HA  
>  
>

Ditto on the big three. The other problem I have with the Japanese manufacturers is that they continue to make radios that are very complicated to use if you want to take advantage of all the features. Have the features are not important to me so I don't want to pay for them. All I want is a quality rig, good quiet receiver, clean transmitter, filters, RIT/XIT and some of the other basics. You can keep all that other stuff. That's why I own a Paragon II from Ten-Tec. Quality and simplicity.

Regards,

Duffy - WB8NUT